

Rock Fragments Volume to Weight Conversion Chart.

> 3 inch		Percent Passing No. 10 Sieve as Weight (based on dry bulk density of 1.5 g/cc)																					
Vol	Wt	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
		Percent Gravel - Volume																					
0	0	100	90	80	74	68	62	56	50	45	40	35	31	27	23	20	16	13	10	7	3	0	
3	5	Extremely gravelly						Very gravelly				Gravelly						Non gravelly					
7	10																						
10	15																						
13	20																						
16	25																						
20	30																						
23	35																						
27	40																						
31	45																						
35	50																						
40	55																						
45	60																						
50	65																						
56	70																						
62	75																						
68	80																						
74	85																						
80	90																						

The rock fragment conversion chart can be used for converting all rock fragments (stones, cobbles, and gravel) from volume to weight and obtain appropriate entries for the >3" fraction and percent of fine earth passing the #10 sieve. These curves are based on the assumption the specific gravity of rock fragments is 2.7 and bulk density of the fine earth fraction is 1.5. They also take into account the two separate bases of 100% that must be used to make these computations: the first 100% base is the whole soil, and the second 100% base is gravel plus fine earth fraction.

Procedure:

1. Summate the estimated total rock fragment content of the whole soil in percent by volume (stones, cobbles, and gravel) of a major soil horizon.
2. For the > 3 inch fraction, use the first two columns. Percent volume >3 inch is given in round numbers. Enter the first column with estimated or measured percent by volume. Read the percent by weight from the second column. Interpolate between rounded numbers if desired.
3. For conversion of volume percent gravel, use the horizontal row under Percent Gravel – Volume. Enter the row with estimated or measured percent by volume. Read from the row above, **Percent Passing No. 10 Sieve as Weight (based on dry bulk density of 1.5 g/cc)**, to get your percent by weight. Remember, the percent gravel by weight is the number read from the row, subtracted from 100. The number read from that row is percent passing the no. 10 sieve. Some interpolation between number values may also be desired.